

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 2 of 20

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-3 (canceled).

Claim 4 (currently amended): A surface acoustic wave device comprising:
a first longitudinally coupled resonator type surface acoustic wave element
including at least three interdigital transducers arranged along the direction of
transmission of a surface acoustic wave, each of the interdigital transducers being
provided with a plurality of electrode fingers; and

a second longitudinally coupled resonator type surface acoustic wave element
including at least three interdigital transducers arranged along the direction of
transmission of the surface acoustic wave, each of the interdigital transducers of the
second longitudinally coupled resonator type surface acoustic wave element being
provided with a plurality of electrode fingers, the first longitudinally coupled resonator
type surface acoustic wave element and the second longitudinally coupled resonator
type surface acoustic wave element being cascaded to each other and being arranged
on a piezoelectric substrate; wherein

at least one of the interdigital transducers of each of the first and second
longitudinally coupled resonator type surface acoustic wave elements has a narrow
pitch electrode finger portion located near the adjacent interdigital transducer, the pitch
of the electrode fingers of the narrow pitch electrode finger portion being smaller than
the pitch of the other electrode fingers;

the number and the pitch of the electrode fingers of the narrow pitch electrode
finger portion of the first longitudinally coupled resonator type surface acoustic wave
element are different from the number and the pitch of the electrode fingers of the

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 3 of 20

narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

~~A surface acoustic wave device according to Claim 1, wherein each of the first and second longitudinally coupled resonator type surface acoustic wave elements includes three interdigital transducers, and the number of the electrode fingers of a central interdigital transducer of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of a central interdigital transducer of the second longitudinally coupled resonator type surface acoustic wave element.~~

Claim 5 (currently amended): A surface acoustic wave device comprising:
a first longitudinally coupled resonator type surface acoustic wave element
including at least three interdigital transducers arranged along the direction of
transmission of a surface acoustic wave, each of the interdigital transducers being
provided with a plurality of electrode fingers; and

a second longitudinally coupled resonator type surface acoustic wave element
including at least three interdigital transducers arranged along the direction of
transmission of the surface acoustic wave, each of the interdigital transducers of the
second longitudinally coupled resonator type surface acoustic wave element being
provided with a plurality of electrode fingers, the first longitudinally coupled resonator
type surface acoustic wave element and the second longitudinally coupled resonator
type surface acoustic wave element being cascaded to each other and being arranged
on a piezoelectric substrate; wherein

at least one of the interdigital transducers of each of the first and second
longitudinally coupled resonator type surface acoustic wave elements has a narrow
pitch electrode finger portion located near the adjacent interdigital transducer, the pitch
of the electrode fingers of the narrow pitch electrode finger portion being smaller than
the pitch of the other electrode fingers;

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 4 of 20

N1 is not equal to N2, where N1 represents the number of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element and N2 represents the number of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

~~A surface acoustic wave device according to Claim 2, wherein each of the first and second longitudinally coupled resonator type surface acoustic wave elements includes three interdigital transducers, and the number of the electrode fingers of a central interdigital transducer of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of a central interdigital transducer of the second longitudinally coupled resonator type surface acoustic wave element.~~

Claim 6 (currently amended): A surface acoustic wave device comprising:
a first longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers; and

a second longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers of the second longitudinally coupled resonator type surface acoustic wave element being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; wherein

at least one of the interdigital transducers of each of the first and second longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion located near the adjacent interdigital transducer, the pitch

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 5 of 20

of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers;

wherein P1 is not equal to P2, where P1 represents the pitch of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element and P2 represents the pitch of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

~~A surface acoustic wave device according to Claim 3, wherein each of the first and second longitudinally coupled resonator type surface acoustic wave elements includes three interdigital transducers, and the number of the electrode fingers of a central interdigital transducer of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of a central interdigital transducer of the second longitudinally coupled resonator type surface acoustic wave element.~~

Claim 7 (currently amended): A surface acoustic wave device comprising:
a first longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers; and

a second longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers of the second longitudinally coupled resonator type surface acoustic wave element being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; wherein

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 6 of 20

at least one of the interdigital transducers of each of the first and second longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion located near the adjacent interdigital transducer, the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers;

the number and the pitch of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element are different from the number and the pitch of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

~~A surface acoustic wave device according to Claim 1, wherein at least one surface acoustic wave resonator is cascaded between the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element.~~

Claim 8 (currently amended): A surface acoustic wave device comprising: a first longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers; and

a second longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers of the second longitudinally coupled resonator type surface acoustic wave element being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; wherein

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 7 of 20

at least one of the interdigital transducers of each of the first and second longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion located near the adjacent interdigital transducer, the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers;

N1 is not equal to N2, where N1 represents the number of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element and N2 represents the number of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

~~A surface acoustic wave device according to Claim 2, wherein~~ at least one surface acoustic wave resonator is cascaded between the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element.

Claim 9 (currently amended): A surface acoustic wave device comprising: a first longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers; and

a second longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers of the second longitudinally coupled resonator type surface acoustic wave element being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; wherein

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 8 of 20

at least one of the interdigital transducers of each of the first and second longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion located near the adjacent interdigital transducer, the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers;

wherein P1 is not equal to P2, where P1 represents the pitch of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element and P2 represents the pitch of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

~~A surface acoustic wave device according to Claim 3, wherein~~ at least one surface acoustic wave resonator is cascaded between the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element.

Claim 10 (original): A surface acoustic wave device comprising:

a first surface acoustic wave filter element including a first longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, and a second longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; and

a second surface acoustic wave filter element including a third longitudinally coupled resonator type surface acoustic wave element provided with at least three

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 9 of 20

interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, and a fourth longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, the third longitudinally coupled resonator type surface acoustic wave element and the fourth longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on the piezoelectric substrate, the phase of input and output signals of the second surface acoustic wave filter element being approximately 180 degrees different from the phase of input and output signals of the first surface acoustic wave filter element, one terminal of the first surface acoustic wave filter element and one terminal of the second surface acoustic wave filter element being electrically connected in parallel, the other terminal of the first surface acoustic wave filter element and the other terminal of the second surface acoustic wave filter element being electrically connected in series; wherein

at least one of the interdigital transducers of each of the first, second, third, and fourth longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion located near the adjacent interdigital transducer, the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers;

the number and the pitch of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element are different from the number and the pitch of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

the number and the pitch of the electrode fingers of the narrow pitch electrode finger portion of the third longitudinally coupled resonator type surface acoustic wave element are different from the number and the pitch of the electrode fingers of the

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 10 of 20

narrow pitch electrode finger portion of the fourth longitudinally coupled resonator type surface acoustic wave element.

Claim 11 (original): A surface acoustic wave device comprising:

a first surface acoustic wave filter element including a first longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, and a second longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; and

a second surface acoustic wave filter element including a third longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, and a fourth longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, the third longitudinally coupled resonator type surface acoustic wave element and the fourth longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on the piezoelectric substrate, the phase of input and output signals of the second surface acoustic wave filter element being approximately 180 degrees different from the phase of input and output signals of the first surface acoustic wave filter element, one terminal of the first surface acoustic wave filter element and one

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 11 of 20

terminal of the second surface acoustic wave filter element being electrically connected in parallel, the other terminal of the first surface acoustic wave filter element and the other terminal of the second surface acoustic wave filter element being electrically connected in series; wherein

at least one of the interdigital transducers of each of the first, second, third, and fourth longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion near the adjacent interdigital transducer, the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers;

the number of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

wherein the number of the electrode fingers of the narrow pitch electrode finger portion of the third longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of the narrow pitch electrode finger portion of the fourth longitudinally coupled resonator type surface acoustic wave element.

Claim 12 (original): A surface acoustic wave device comprising:

a first surface acoustic wave filter element including a first longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, and a second longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 12 of 20

type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; and

a second surface acoustic wave filter element including a third longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, and a fourth longitudinally coupled resonator type surface acoustic wave element provided with at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers, the third longitudinally coupled resonator type surface acoustic wave element and the fourth longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on the piezoelectric substrate, the phase of input and output signals of the second surface acoustic wave filter element being approximately 180 degrees different from the phase of input and output signals of the first surface acoustic wave filter element, one terminal of the first surface acoustic wave filter element and one terminal of the second surface acoustic wave filter element being electrically connected in parallel, the other terminal of the first surface acoustic wave filter element and the other terminal of the second surface acoustic wave filter element being electrically connected in series; wherein

at least one of the interdigital transducers of each of the first, second, third, and fourth longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion located near the adjacent interdigital transducer, the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers;

the pitch of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element is different from the pitch of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

Serial No. 10/774,632

August 23, 2005

Reply to the Office Action dated May 23, 2005

Page 13 of 20

the pitch of the electrode fingers of the narrow pitch electrode finger portion of the third longitudinally coupled resonator type surface acoustic wave element is different from the pitch of the electrode fingers of the narrow pitch electrode finger portion of the fourth longitudinally coupled resonator type surface acoustic wave element.

Claim 13 (original): A surface acoustic wave device according to Claim 10, wherein each of the first, second, third, and fourth longitudinally coupled resonator type surface acoustic wave elements includes three interdigital transducers, the number of the electrode fingers of a central interdigital transducer of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of a central interdigital transducer of the second longitudinally coupled resonator type surface acoustic wave element, and the number of the electrode fingers of the central interdigital transducer of the third longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of the central interdigital transducer of the fourth longitudinally coupled resonator type surface acoustic wave element.

Claim 14 (original): A surface acoustic wave device according to Claim 11, wherein each of the first, second, third, and fourth longitudinally coupled resonator type surface acoustic wave elements includes three interdigital transducers, the number of the electrode fingers of a central interdigital transducer of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of a central interdigital transducer of the second longitudinally coupled resonator type surface acoustic wave element, and the number of the electrode fingers of the central interdigital transducer of the third longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of the central interdigital transducer of the fourth longitudinally coupled resonator type surface acoustic wave element.

Serial No. 10/774,632

August 23, 2005

Reply to the Office Action dated May 23, 2005

Page 14 of 20

Claim 15 (original): A surface acoustic wave device according to Claim 12, wherein each of the first, second, third, and fourth longitudinally coupled resonator type surface acoustic wave elements includes three interdigital transducers, the number of the electrode fingers of a central interdigital transducer of the first longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of a central interdigital transducer of the second longitudinally coupled resonator type surface acoustic wave element, and the number of the electrode fingers of the central interdigital transducer of the third longitudinally coupled resonator type surface acoustic wave element is different from the number of the electrode fingers of the central interdigital transducer of the fourth longitudinally coupled resonator type surface acoustic wave element.

Claim 16 (original): A surface acoustic wave device according to Claim 10, wherein at least one surface acoustic wave resonator is cascaded between the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element and between the third longitudinally coupled resonator type surface acoustic wave element and the fourth longitudinally coupled resonator type surface acoustic wave element.

Claim 17 (original): A surface acoustic wave device according to Claim 11, wherein at least one surface acoustic wave resonator is cascaded between the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element and between the third longitudinally coupled resonator type surface acoustic wave element and the fourth longitudinally coupled resonator type surface acoustic wave element.

Claim 18 (original): A surface acoustic wave device according to Claim 12, wherein at least one surface acoustic wave resonator is cascaded between the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element and between the

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 15 of 20

third longitudinally coupled resonator type surface acoustic wave element and the fourth longitudinally coupled resonator type surface acoustic wave element.

Claim 19 (currently amended): A surface acoustic wave device comprising:
a first longitudinally coupled resonator type surface acoustic wave element
including at least three interdigital transducers arranged along the direction of
transmission of a surface acoustic wave, each of the interdigital transducers being
provided with a plurality of electrode fingers; and

a second longitudinally coupled resonator type surface acoustic wave element
including at least three interdigital transducers arranged along the direction of
transmission of the surface acoustic wave, each of the interdigital transducers of the
second longitudinally coupled resonator type surface acoustic wave element being
provided with a plurality of electrode fingers, the first longitudinally coupled resonator
type surface acoustic wave element and the second longitudinally coupled resonator
type surface acoustic wave element being cascaded to each other and being arranged
on a piezoelectric substrate; wherein

at least one of the interdigital transducers of each of the first and second
longitudinally coupled resonator type surface acoustic wave elements has a narrow
pitch electrode finger portion located near the adjacent interdigital transducer, the pitch
of the electrode fingers of the narrow pitch electrode finger portion being smaller than
the pitch of the other electrode fingers;

the number and the pitch of the electrode fingers of the narrow pitch electrode
finger portion of the first longitudinally coupled resonator type surface acoustic wave
element are different from the number and the pitch of the electrode fingers of the
narrow pitch electrode finger portion of the second longitudinally coupled resonator type
surface acoustic wave element; and

A surface acoustic wave device according to Claim 1, wherein the ratio of input
impedance to output impedance is about 1:2 or about 1:3 or the ratio of output
impedance to input impedance is about 1:2 or about 1:3.

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 16 of 20

Claim 20 (currently amended): A surface acoustic wave device comprising:
a first longitudinally coupled resonator type surface acoustic wave element
including at least three interdigital transducers arranged along the direction of
transmission of a surface acoustic wave, each of the interdigital transducers being
provided with a plurality of electrode fingers; and

a second longitudinally coupled resonator type surface acoustic wave element
including at least three interdigital transducers arranged along the direction of
transmission of the surface acoustic wave, each of the interdigital transducers of the
second longitudinally coupled resonator type surface acoustic wave element being
provided with a plurality of electrode fingers, the first longitudinally coupled resonator
type surface acoustic wave element and the second longitudinally coupled resonator
type surface acoustic wave element being cascaded to each other and being arranged
on a piezoelectric substrate; wherein

at least one of the interdigital transducers of each of the first and second
longitudinally coupled resonator type surface acoustic wave elements has a narrow
pitch electrode finger portion located near the adjacent interdigital transducer, the pitch
of the electrode fingers of the narrow pitch electrode finger portion being smaller than
the pitch of the other electrode fingers;

N1 is not equal to N2, where N1 represents the number of the electrode fingers
of the narrow pitch electrode finger portion of the first longitudinally coupled resonator
type surface acoustic wave element and N2 represents the number of the electrode
fingers of the narrow pitch electrode finger portion of the second longitudinally coupled
resonator type surface acoustic wave element; and

~~A surface acoustic wave device according to Claim 2, wherein~~ the ratio of input
impedance to output impedance is about 1:2 or about 1:3 or the ratio of output
impedance to input impedance is about 1:2 or about 1:3.

Claim 21 (currently amended): A surface acoustic wave device comprising:

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 17 of 20

a first longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of a surface acoustic wave, each of the interdigital transducers being provided with a plurality of electrode fingers; and

a second longitudinally coupled resonator type surface acoustic wave element including at least three interdigital transducers arranged along the direction of transmission of the surface acoustic wave, each of the interdigital transducers of the second longitudinally coupled resonator type surface acoustic wave element being provided with a plurality of electrode fingers, the first longitudinally coupled resonator type surface acoustic wave element and the second longitudinally coupled resonator type surface acoustic wave element being cascaded to each other and being arranged on a piezoelectric substrate; wherein

at least one of the interdigital transducers of each of the first and second longitudinally coupled resonator type surface acoustic wave elements has a narrow pitch electrode finger portion located near the adjacent interdigital transducer, the pitch of the electrode fingers of the narrow pitch electrode finger portion being smaller than the pitch of the other electrode fingers;

wherein P1 is not equal to P2, where P1 represents the pitch of the electrode fingers of the narrow pitch electrode finger portion of the first longitudinally coupled resonator type surface acoustic wave element and P2 represents the pitch of the electrode fingers of the narrow pitch electrode finger portion of the second longitudinally coupled resonator type surface acoustic wave element; and

~~A surface acoustic wave device according to Claim 3, wherein the ratio of input impedance to output impedance is about 1:2 or about 1:3 or the ratio of output impedance to input impedance is about 1:2 or about 1:3.~~

Claim 22 (original): A surface acoustic wave device according to Claim 10, wherein the ratio of input impedance to output impedance is about 1:2 or about 1:3 or the ratio of output impedance to input impedance is about 1:2 or about 1:3.

Serial No. 10/774,632
August 23, 2005
Reply to the Office Action dated May 23, 2005
Page 18 of 20

Claim 23 (original): A surface acoustic wave device according to Claim 11, wherein the ratio of input impedance to output impedance is about 1:2 or about 1:3 or the ratio of output impedance to input impedance is about 1:2 or about 1:3.

Claim 24 (original): A surface acoustic wave device according to Claim 12, wherein the ratio of input impedance to output impedance is about 1:2 or about 1:3 or the ratio of output impedance to input impedance is about 1:2 or about 1:3.

Claims 25-27 (canceled).

Claim 28 (original): A surface acoustic wave device according to Claim 10, wherein a balanced-unbalanced conversion function is provided.

Claim 29 (original): A surface acoustic wave device according to Claim 11, wherein a balanced-unbalanced conversion function is provided.

Claim 30 (original): A surface acoustic wave device according to Claim 12, wherein a balanced-unbalanced conversion function is provided.

Claims 31-33 (canceled).

Claim 34 (original): A communication apparatus comprising the surface acoustic wave device as set forth in Claim 10.

Claim 35 (original): A communication apparatus comprising the surface acoustic wave device as set forth in Claim 11.

Claim 36 (original): A communication apparatus comprising the surface acoustic wave device as set forth in Claim 12.